

Application Serial No.: 09/189,543
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Listing of Claims

This listing of claims will replace all prior versions and listings of claims in the application:

In the claims

Claims 1-37 have been canceled.

38. (Currently Amended) An array composition comprising:

a) a substrate with a surface comprising discrete sites at a density of at least 100 sites per 1 mm², wherein said discrete sites are wells; and

b) a population of microspheres randomly distributed on said sites, wherein said population comprises at least a first and a second subpopulation each comprising a different bioactive agent and wherein each subpopulation further comprises a different identifier binding ligand; and

c) at least one decoder binding ligand comprising a label.

39. (Canceled)

40. (Currently amended) The array composition according to claim [[37 or]] 38, wherein said bioactive agents are nucleic acids.

41. (Previously presented) The array composition according to claim 40 wherein said nucleic acids are DNA.

42. (Previously presented) The array composition according to claim 40 wherein said nucleic acids are single stranded nucleic acids.

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43. **(Previously presented)** The array composition according to claim 40 wherein said nucleic acids are double stranded nucleic acids.

44. **(Currently amended)** The array composition according to claim [[37 or]] 38, wherein said bioactive agents are proteins.

45. **(Currently amended)** The array composition according to claim [[37 or]] 38, 40, 41, 42, 43, or 44, wherein said substrate is a fiber optic bundle.

46. **(Currently amended)** The array composition according to claim [[37 or]] 38, 40, 41, 42, 43, or 44, wherein said substrate is glass.

47. **(Currently amended)** The array composition according to claim [[37 or]] 38, 40, 41, 42, 43, or 44, wherein said substrate is plastic.

Claims 48-51 have been canceled.

52. **(Currently amended)** An array composition comprising:

a) a substrate with a surface comprising discrete sites at a density of at least 100 sites per 1 mm²; and

b) a population of microspheres comprising at least a first and a second subpopulation, wherein said first and said second subpopulations each comprise:

i) a different protein bioactive agent; and

ii) a different nucleic acid identifier binding ligand;

wherein said microspheres are randomly distributed on said sites; and

c) at least one decoder binding ligand comprising a label

53. **(Currently amended)** The array composition according to claim 52[[,]] or 54 [[or 55]], wherein said substrate is selected from the group consisting of fiber optic bundles, plastic and glass.

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54. (Currently amended) An array composition comprising:

a) a fiber optic bundle with a surface comprising discrete wells at a density of at least 100 sites per 1 mm²; and

b) a population of microspheres comprising at least a first and a second subpopulation, wherein said first and said second subpopulations each comprise:

i) a different protein bioactive agent; and

ii) a different nucleic acid identifier binding ligand;

wherein said microspheres are randomly distributed on said sites; and

c) at least one decoder binding ligand comprising a label.

55. (Previously presented) A method of making a composition comprising:

a) forming a substrate with a surface comprising discrete sites at a density of at least 100 sites per 1 mm²; and

b) randomly distributing a population of microspheres on said surface such that individual sites contain microspheres, wherein said population comprises at least a first and second subpopulation, wherein said first and second subpopulations each comprise:

i) a different protein bioactive agent; and

ii) a different nucleic acid identifier binding ligand;

c) binding a first and second distinct decoder binding ligand to said first and second distinct identifier binding ligand.

Claims 56 and 57 have been canceled.

58. (Previously presented) The array composition according to claim 52[[,]] or 54 [[or 55]], wherein said nucleic acid identifier binding ligands are DNA.

59. (Previously presented) The array composition according to claim 52[[,]] or 54 [[or 55]], wherein said nucleic acid identifier binding ligands are single stranded nucleic acids.

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60. **(Previously presented)** The array composition according to claim 53 wherein said substrate is a fiber optic bundle.

61. **(Previously presented)** The array composition according to claim 53 wherein said substrate is glass.

62. **(Previously presented)** The array composition according to claim 53 wherein said substrate is plastic.

63. **(Canceled)**

64. **(New)** The method according to claim 55, wherein said substrate is a fiber optic bundle.

65. **(New)** The method according to claim 55, wherein said substrate is plastic.

66. **(New)** The method according to claim 55, wherein said substrate is glass.

67. **(New)** The method according to claim 55, 64, 65, or 66, wherein said nucleic acid identifier binding ligands are DNA.

68. **(New)** The method according to claim 67, wherein said nucleic acid identifier binding ligands are single stranded nucleic acids.

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